WHAT IS CLAIMED IS:

1   1.   A method comprising:
2   identifying a first set of physical storage devices to reserve as backup for a second set of
3   physical storage devices configured to provide a logical volume,
4   wherein
5   the second set of physical storage devices is configured using an intent associated
6   with the logical volume, and
7   each physical storage device of the first set of physical storage devices and the second
8   set of physical storage devices conforms to the intent.

1   2.   The method of claim 1 further comprising:
2   reserving the first set of physical storage devices.

1   3.   The method of claim 2 wherein
2   the reserving the first set of physical storage devices occurs at a time that the second set of
3   physical storage devices is configured to provide the logical volume.

1   4.   The method of claim 2 further comprising:
2   selecting a backup physical storage device of the first set of physical storage devices to
3   replace a failed physical storage device of the second set of physical storage devices.

1   5.   The method of claim 4 wherein
2   the backup physical storage device conforms to the intent such that the selecting the backup
3   physical storage device is performed without searching for the backup physical
4   storage device.

1   6.   The method of claim 2 further comprising:
2   using a backup physical storage device of the first set of physical storage devices to increase
3   a size of the logical volume.

1   7.   The method of claim 1 wherein
2   the intent comprises a rule used to configure the second set of physical storage devices for the
3   logical volume.

1   8.   The method of claim 1 wherein

2   the rule is stored with the logical volume when the logical volume is configured.

1   9.   The method of claim 1 wherein

2   the rule corresponds to a command used to configure the logical volume.

1   10.   The method of claim 1 wherein

2   the rule is used to identify the available physical storage devices to configure the logical

3   volume.

1   11.   The method of claim 1 wherein

2   the rule is used to identify available physical storage devices from which the first set of

3   physical storage devices is identified.

1   12.   The method of claim 1 wherein

2   the intent is stored with the logical volume when the logical volume is configured.

1   13.   The method of claim 1 wherein

2   the logical volume is created when the logical volume is configured.

1   14.   The method of claim 1 further comprising:

2   providing availability of the logical volume by ensuring that the first set of physical storage

3   devices is available and conforms to the intent of the logical volume.

1   15.   The method of claim 14 wherein

2   the availability of the logical volume meets an availability requirement.

1   16.   A system comprising:

2   identifying means for identifying a first set of physical storage devices to reserve as backup

3   for a second set of physical storage devices configured to provide a logical volume,

4   wherein

5   the second set of physical storage devices is configured using an intent associated

6   with the logical volume, and

7   each physical storage device of the first set of physical storage devices and the second

8   set of physical storage devices conforms to the intent.

1   17.   The system of claim 16 further comprising:

2   reserving means for reserving the first set of physical storage devices.

1   18.   The system of claim 17 wherein

2   the reserving the first set of physical storage devices occurs at a time that the second set of

3   physical storage devices is configured to provide the logical volume.

1   19.   The system of claim 17 further comprising:

2   selecting means for selecting a backup physical storage device of the first set of physical

3   storage devices to replace a failed physical storage device of the second set of

4   physical storage devices.

1   20.   A computer-readable medium comprising:

2   identifying instructions configured to identify a first set of physical storage devices to reserve

3   as backup for a second set of physical storage devices configured to provide a logical

4   volume, wherein

5   the second set of physical storage devices is configured using an intent associated

6   with the logical volume, and

7   each physical storage device of the first set of physical storage devices and the second

8   set of physical storage devices conforms to the intent.

1   21.   The computer-readable medium of claim 20 further comprising:

2   reserving instructions configured to reserve the first set of physical storage devices.

1   22.   The computer-readable medium of claim 21 wherein

2   the reserving the first set of physical storage devices occurs at a time that the second set of

3   physical storage devices is configured to provide the logical volume.

1   23.   The computer-readable medium of claim 21 further comprising:

2   selecting instructions configured to select a backup physical storage device of the first set of

3   physical storage devices to replace a failed physical storage device of the second set

4   of physical storage devices.

1   24.   A system comprising:

2   an identifying module configured to identify a first set of physical storage devices to reserve

3   as backup for a second set of physical storage devices configured to provide a logical

4   volume, wherein

5   the second set of physical storage devices is configured using an intent associated

6   with the logical volume, and

7   each physical storage device of the first set of physical storage devices and the second

8   set of physical storage devices conforms to the intent.

1   25.   The system of claim 24 further comprising:

2   a reserving module configured to reserve the first set of physical storage devices.

1   26.   The system of claim 25 wherein

2   the reserving module reserves the first set of physical storage devices at a time that the

3   second set of physical storage devices is configured to provide the logical volume.

1   27.   The system of claim 25 further comprising:

2   a selecting module configured to select a backup physical storage device of the first set of

3   physical storage devices to replace a failed physical storage device of the second set

4   of physical storage devices.